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ABSTRACT

This paper reports on a research study which attempted to determine whether competition could generate the same enthusiasm in the classroom (for learning) as it does on the playing field (in sports). Ninth grade world cultures students at Concord-Carlisle High School, Concord, Massachusetts were led to believe that they were competing in an All-East Coast Academic Tournament composed of classes comparable to their own. "Official" tournament charts and outside "proctors" gave the situation legitimacy. Along with the interschool competition, students in the class had an intraclass competition among themselves. The tournament process is discussed, as is the composition of the class involved in the study. As a result of the experiment, attendance increased significantly and student grades improved. The difference in performance between boys and girls was examined. Lilien concludes that this type of activity should not be used because: (1) the increased pressure turns some students off and they do not function as well when pressure is present; (2) the level of historical learning is not very high; and (3) some people argue that "learning ought to be cooperative and not competitive." A chart is provided that details individual student's grades before the tournament, their grades on the final examination, and the number of correct questions answered during the "competition." (GEA)

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1988

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COMPETITION EXPERIMENT WITH WORLD CULTURES CLASS

During the school year of 1987-88 I conducted an experiment with a class of ninth grade World Cultures history students at Concord-Carlisle High School, Concord, Massachusetts. The experiment was an attempt to determine how an increase in both pressure and attention would affect the performance of a class of fourteen year old history students. They were told (a total fiction) that they were to be entered in an All-East Coast Academic Tournament made up of classes comparable to their own. Outside proctors, appointed by the tournament, would come to the school and ask them questions individually before the whole class. They would answer orally, and the school which had the most correct answers out of a hundred would advance in the tournament. Concord-Carlisle would face a high school from Delaware in the first round. The draw for the tournament was posted in a prominent place in the classroom.

Along with this interschool competition the students in the class would have an intraclass competition amongst themselves. They would be divided into five teams of five students each. These teams would compete with each other while the class as a whole competed in the All-East Tournament. The winning team in the class would receive two pints of ice cream (Ben and Jerrys) each. By this arrangement it was hoped each pupil would be doubly motivated, first by concern for the class as a whole and then by concern for their own smaller team. This was done in order to give each student two motivations; if the intraclass team became hopelessly behind then he or she might still maintain interest in the interschool competition. If the class as a whole began failing a participant might still get the ice cream. As it turned out this was probably not necessary. The outside competition dominated attention and provided sufficient motivation by itself.

I have always noticed, as a fencing coach, that concentration on the task was greater in athletic competition than in the classroom. If the atmosphere of the playing field could be reproduced in academics, I wondered if the results would be noticeably different. I was certainly

influenced in that direction by Ted Sizer of Brown who thought that the teacher should foremost be a coach. As the coach of the Concord-Carlisle Academic Bowl Team I immediately became aware of the intensity and interest of the team in mastering academic material, leading me to speculate upon what the result would be if their experiences in the state and national tournaments were transferred to a regular classroom. Finally, Frank Krypel, the Vice-Principal at Concord-Carlisle, made invaluable suggestions about how the experiment might be set up and, in fact, suggested the outline of the experiment.

The Social Studies Department at Concord-Carlisle has been committed, over a period of twenty years, to heterogeneous grouping. So the classes in the World Cultures Ninth Grade Program were a mix of all abilities and seemed a good subject for testing the idea that competition and increased pressure would improve performance. Because the ninth-grade program is compulsory the presence in any one single class of a certain number of non-achievers was guaranteed. But the class selected for the experiment was unusual in that it appeared afflicted by a particularly high disaster rate. Of twenty-six students, seven were either getting D's or F's when I began instructing them. This, a twenty five percent failure or near failure rate, is not very usual at Concord-Carlisle High. The disparity of achievement in the class was augmented by the fact that the group met last period of each day and was particularly restless. In addition, the class included members who could only be classified as "extremely disturbed". One had been expelled from school before, another had been "missing" for weeks at a time during the immediately preceding semester. Besides these two there were others who were continually subject to the discipline system. Seven serious problem children were scheduled together in this class.

During the first semester the class had further complications. There had been three different teachers because the originally assigned teacher had a death in her family and did not teach at all the first quarter (each semester has two quarters). By the time she returned bizarre behavior reigned. She termed the class "the most difficult I ever saw" and she had over twenty years of experience. So there was much room for improvement.

The primary aim of the experiment was to increase attendance. To this end the class was told that the rules established by the "Eastern Association of World Cultures Competitions" stipulated that each student absent received no points at all for the four questions that would be asked to each pupil during the competition. Absence let down the whole class and also the individual's team. Non-attendance in the class had averaged about twenty percent. But during the days of the competition only two absences occurred out of a possible one hundred and four student attendances. So attendance went way up. Some students told me they came to school "for this class" even though they were "sick."

Likewise grades improved. On the final exam each student was asked four hundred questions, some true-false, some matching, some identification. The class as a whole scored eighty-one percent on the final and only two students failed it. The questions asked on the exam were those items on which the class was drilled continually in preparation for the contest. But a really remarkable thing happened, because the questions they were asked personally, in front of the class, by an outsider, were answered in a much higher percentage correctly than the questions on the test as a whole.

The contest required that each student answer eight questions orally. The Department Chairman of the Social Studies Department of Acton-Boxboro High presided at two sessions. The principal of Concord-Carlisle attended two. The whole procedure was very formal, the student isolated by the attention riveted upon him. A scoreboard kept track of the team score during the whole of each match. The scoreboard was very large.

All of these oral questions appeared in written form on each student's final exam; that is, each student was asked to answer, as a fill in, the specific questions that he/she had in the contest. Eighty-eight percent of these questions were answered correctly, as opposed to eighty-one percent in the exam overall. Since the students were compelled to write out the answers to these questions, rather than simply to respond to true-false or matching questions, it seems fair to conclude that, on this limited sample, if the rewards are raised and attention centered on students by school

authority figures, student performance will increase. They will master historical material at a higher level.

One of the major contributing factors in the success of this experiment was the fact that the students believed they were being evaluated according to their ability. I told them I had entered their names in order, one through twenty-five, according to their previous grades and that the other thirty-one schools had done the same. Therefore, student twenty-five in Concord-Carlisle would be asked: "In what year did Columbus discover America?" and student twenty-five in Dover, Delaware, would be asked the same question. They were also informed that, in my opinion, they matched up well with other classes I had known and so they were selected to represent CCHS in the tournament. Along with this information they also knew that no class under twenty-five students could enter (this eliminated most all the other classes at Concord-Carlisle). All competitors entered the tournament on an equal footing. So prior academic work was either an advantage or a disadvantage.

After each "game" the results were posted on the board in large letters, along with the names of the leading scorers (those who had correctly answered the largest number of questions). A number of the leading scorers were students who had never demonstrated any academic ability before. Of course, they were <u>not</u> asked "Who was Ulrich Zwingli?"--a question asked the students positioned No. 1 among the twenty-five.

Other students in the ninth grade demanded to know why they were not in the tournament. The principal of the school, after we beat Rochester, New York, came into the classroom and publicly shook hands with the two high scorers and thanked them for their efforts. When we lost to Washington High of Charleston, South Carolina, the class felt the same kind of sorrow and disappointment one feels on a team that has lost a big game.

It should also be noted that the atmosphere in the room, during the competition, was full of tension and excitement. Adults who were invited in to watch testified to the remarkable attention and enthusiasm. The class

cheered the success of their fellow students, especially those who had achieved little academic success previously. As three days passed between the end of each round and the time the results were announced I was constantly asked, in the halls and when classes were not in session, "if I had any news."

Particularly notable during the contest was the performance of students who could only be called "terrible". (Check grade chart) Ralph Glamerosty failed the two quarters of the course, but got six out of eight correct when asked the questions he had received during the game. He also received a "C" on the final, an indication that he had benefitted from the constant reviewing produced by the tournament.

Since putting up with pressure and prospering under it were qualities that increased performance in this exercise, I wondered if there was a difference in the scores of the boys and girls. As girls are supposed to fare less well under pressure and in competition, it was interesting to find out if the same were true here. The results are worth attention. There seemed to be no significant difference. The boys averaged 85.0 on the final, the girls 75.9. On the isolated questions the boys averaged 89.0, the girls 83.5. So the boys increased four points on the isolated questions, the girls 7.6. The idea that girls would react less well to the increased pressure did not appear to be demonstrated, at least not with this group of students.

REASONS WHY THIS SORT OF THING OUGHT NOT TO BE DONE

First: The increased pressure turns some students off and they function less well when pressure is present, but the other methods of instruction, with the competitive aspect absent, or muted, seemed to turn more students off. If the general level of knowledge goes up, it cannot be a real objection that <u>everyone</u> does not improve in performance.

Second: The level of historical learning is not very high. By being in the game and learning the facts which will help your team prosper, the students are not gaining deeper understanding of the relation of one fact to another,

are not making meaningful generalizations, are not analyzing motivation or causation and are not, in short form, behaving at the level that is set out in GOALS AND OBJECTIVES OF THE SCHOOL. In answer to this objection it might be well to suggest that what I did ought not to be tried with juniors and seniors, perhaps not even with sophomores. The freshman class it appeared to succeed with were not, as a whole, very able in the area of abstraction. History is a difficult subject for immature people, because it requires an understanding of the adult world on a level which is not necessary in order to be a phenom in mathematics. The average freshman does not know much about sexual motivation, adult competition for power, or the realities of responsibility and a long day of work. He or she, on the other hand, is able to master a lot of factual material. The more abstract parts of history can be introduced at a later, more appropriate time. And it is not irrelevant to note that, without factual mastery, the other skills, synthesis, analysis or comparison, are not of much use. The competition appears to have increased factual mastery. Factual mastery is necessary in order to "do history", so we ought to use whatever weapons come to hand.

Finally, one might object to competition in and of itself, regardless of the outcome. "Learning ought to be cooperative and not competitive" this objection runs. To this I can offer no answer except the fact that classes like the one subjected to this experiment seem, nation-wide, to be getting little learning. By ninth grade half this class did not know the year Columbus discovered America or even the location of the towns surrounding Concord. It might be even more unacceptable to allow that level of ignorance to continue.

The lying involved (telling them that they were in a regional competition which in fact did not exist) is not necessary at all to the activity. Competition might be organized between different classes in the same school, or even parts of the same class if the reinforcement by the whole institution was present and sufficient drama generated.

These students came to me from another teacher. That might be a critical factor not taken into account. Yet the results seem striking enough

to enable one to consider that insignificant. I felt, in the classroom, enough excitement and interest so that I believed that even if I had been the teacher for the first semester, instead of the conglomeration that taught the class, the grades still would have improved with the introduction of the competition. Of course, this can be demonstrated true or false by others. At a minimum the experiences give us, as teachers, another option. Those interested might attempt it, those revolted by it would not have to have anything to do with it.

GRADES RECEIVED IN WORLD CULTURES
BEFORE THE EASTERN WORLD CULTURES CHAMPIONSHIPS

	Grade coming in	Final Exam	Contest
Abercrinbie	C	C+	7
Amberson	A-	B+	7
Betham	A-	A+	8
Baumbartner	A-	A+	8
Comberwell	F	F	6
Clombo	A-	A-	6
Cumberland	C+	C+	8
Damerbone	D	F	1-3
Donnerwetter	A-	A	7
Garrison	A	A	6
Gaberdine	B	B+	8
Glamerostv	F	C	6
Haberstram	D-	C+	5
Hazelton	B	C+	5-5
Hendleman	A-	A+	8
Kalmanilla	A-	A+	8
Kendi	B+	B+	6
Marza	B+	B-	6
Mellon	C+	B+	8
Meteor	C+	C-	7
Moribund	F	D-	4-4
Palamino	B	B-	7
Samerstoff	D	C-	3-5
Scafflod	B	A-	7
Seamantv	F	F	6
Wallflower	A-	A-	8
Wellenslauzer	B	A	8

Explanation: Under the heading "Grade Coming In" are listed the grades the students had received before I became their instructor and before they

were introduced to the Eastern World Cultures Tournament. The column "Final Exam" lists the grade received on the final exam, that is, the grade that evaluated them for the work they did reviewing for the contest. On that final exam the eight questions they were publicly asked were reproduced. How many they answered correctly are listed in the column "Contest". A striking example is Jennifer Seamanty, who failed the course before she entered my class, failed the final exam, and got each of the questions asked her in public correct on the final. Some of the students do not have eight questions answered because they were absent on one or the other of the days on which we competed. Jim Hazelton was present for five questions and answered them all correctly.